

What is claimed is:

1. A method for storing fluids in a bag that has an inner lining that is essentially sterilized and essentially free of pyrogen, the method comprising:
 - 5 heating the bag that is comprised of a polymeric film comprising a polymer selected from the group of poly(oxy-1,4-phenylene-oxy-1,4-phenylene-carbonyl-1,4-phenylene) (PEEK); polytetrafluoroethylene (PTFE); a perfluoroalkoxy (PFA) polymer; poly(tetrafluoroethylene-*co*- perfluoromethyl vinyl ether) (MFA); polyperfluoro(ethylene-*co*-propylene) (FEP); poly(ethylene-*alt*-chlorotrifluoroethylene) (ECTFE); poly(ethylene-*co*-tetrafluoroethylene) (ETFE); poly(vinylidene fluoride) (PDVF); tetrafluoroethylene-*co*-hexafluoropropylene-*co*-vinylidene fluoride terpolymer (THV); ultra-high molecular weight polyethylene (UHMW PE); (poly(bisphenol A-*co*-4-nitrophthalic anhydride-*co*-1,3-phenylenediamine) (PEI); poly(4-methyl-1-pentene) (PMP); and suitable mixtures thereof; to at least approximately 253° Celsius.
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2. The method of claim 1, further comprising maintaining the heating of the bag at least approximately 253° Celsius for at least approximately 30 minutes.
3. The method of claim 2, further comprising storing the fluids in the bag after
 - 20 maintaining the heating of the bag at least approximately 253° Celsius for at least approximately 30 minutes.
4. The method of claim 3, further comprising sealing the bag after storing the fluids in the bag.
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5. The method of claim 1, further comprising maintaining the heating of the bag at least approximately 253° Celsius for at least approximately 60 minutes.

6. The method of claim 5, further comprising storing the fluids in the bag after maintaining the heating of the bag at least approximately 253° Celsius for at least approximately 60 minutes.

5 7. The method of claim 6, further comprising sealing the bag after storing the fluids in the bag.

8. The method of claim 7, wherein the bag is not heated to at least 253° Celsius after the sealing of the bag.

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9. A method for forming a polymeric film-based bag for storage of liquid, the method comprising:

aligning edges of a first polymeric film comprising a polymer selected from the group of poly(oxy-1,4-phenylene-oxy-1,4-phenylene-carbonyl-1,4-phenylene) (PEEK);
 15 polytetrafluoroethylene (PTFE); a perfluoroalkoxy (PFA) polymer;
 poly(tetrafluoroethylene-*co*- perfluoromethyl vinyl ether) (MFA);
 polyperfluoro(ethylene-*co*-propylene) (FEP); poly(ethylene-*alt*-chlorotrifluoroethylene) (ECTFE); poly(ethylene-*co*-tetrafluoroethylene) (ETFE); poly(vinylidene fluoride) (PDVF); tetrafluoroethylene-*co*-hexafluoropropylene-*co*-vinylidene fluoride terpolymer
 20 (THV); ultra-high molecular weight polyethylene (UHMW PE); (poly(bisphenol A-*co*-4-nitrophthalic anhydride-*co*-1,3-phenylenediamine) (PEI); poly(4-methyl-1-pentene) (PMP); and suitable mixtures thereof; with edges of a second polymeric film comprising a polymer selected from the group of poly(oxy-1,4-phenylene-oxy-1,4-phenylene-carbonyl-1,4-phenylene) (PEEK); polytetrafluoroethylene (PTFE); a perfluoroalkoxy
 25 (PFA) polymer; poly(tetrafluoroethylene-*co*- perfluoromethyl vinyl ether) (MFA);
 polyperfluoro(ethylene-*co*-propylene) (FEP); poly(ethylene-*alt*-chlorotrifluoroethylene) (ECTFE); poly(ethylene-*co*-tetrafluoroethylene) (ETFE); poly(vinylidene fluoride) (PDVF); tetrafluoroethylene-*co*-hexafluoropropylene-*co*-vinylidene fluoride terpolymer (THV); ultra-high molecular weight polyethylene (UHMW PE); (poly(bisphenol A-*co*-4-

nitrophthalic anhydride-*co*-1,3-phenylenediamine) (PEI); poly(4-methyl-1-pentene) (PMP); and suitable mixtures thereof;

placing a connector approximately perpendicular with one edge of the edges of the first polymeric film and one edge of the second polymeric film; and

5 coupling the edges of the first polymeric film to the edges of the second polymeric film.

10. The method of claim 9, wherein coupling the edges of the first polymeric film to the edges of the second polymeric film comprises welding the edges of the first
10 polymeric film to the edges of the second polymeric film.

11. The method of claim 10, welding the edges of the first polymeric film to the edges of the second polymeric film comprises heating the edges of the first polymeric film and the edges of the second polymeric film to at least approximately 330° Celsius.

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12. The method of claim 9, wherein coupling the edges of the first polymeric film to the edges of the second polymeric film comprises ultrasonic sealing the edges of the first polymeric film to the edges of the second polymeric film.

20 13. The method of claim 9, wherein placing the connector approximately perpendicular with one edge of the edges of the first polymeric film and one edge of the second polymeric film comprises placing a connector comprised of polymeric approximately perpendicular with one edge of the edges of the first polymeric film and one edge of the second polymeric film

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14. An apparatus comprising:

a bag for the storage of fluids, the bag comprised of a polymeric film comprising a polymer selected from the group of poly(oxy-1,4-phenylene-oxy-1,4-phenylene-carbonyl-1,4-phenylene) (PEEK); polytetrafluoroethylene (PTFE); a perfluoroalkoxy (PFA) polymer; poly(tetrafluoroethylene-*co*- perfluoromethyl vinyl ether) (MFA);
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polyperfluoro(ethylene-*co*-propylene) (FEP); poly(ethylene-*alt*-chlorotrifluoroethylene) (ECTFE); poly(ethylene-*co*-tetrafluoroethylene) (ETFE); poly(vinylidene fluoride) (PDVF); tetrafluoroethylene-*co*-hexafluoropropylene-*co*-vinylidene fluoride terpolymer (THV); ultra-high molecular weight polyethylene (UHMW PE); (poly(bisphenol A-*co*-4-nitrophthalic anhydride-*co*-1,3-phenylenediamine) (PEI); poly(4-methyl-1-pentene) (PMP); and suitable mixtures thereof, the bag suitable for heating to at least approximately 253° Celsius.

15. The apparatus of claim 14, wherein a thickness of the polymeric film is in a range of approximately 15 to 50 microns.

16. The apparatus of claim 14, wherein the bag is suitable for heating to at least 253° Celsius for at least approximately 30 minutes.

17. The apparatus of claim 14, wherein the bag is suitable for heating to at least 253° Celsius for at least approximately 60 minutes.

18. The apparatus of claim 14, wherein the fluids comprise bodily fluids.

19. The apparatus of claim 14, wherein the fluids comprise blood.

20. A bag for storage of a liquid, the bag comprising:
a first film comprised of a polymer selected from the group of poly(oxy-1,4-phenylene-oxy-1,4-phenylene-carbonyl-1,4-phenylene) (PEEK); polytetrafluoroethylene (PTFE); a perfluoroalkoxy (PFA) polymer; poly(tetrafluoroethylene-*co*- perfluoromethyl vinyl ether) (MFA); polyperfluoro(ethylene-*co*-propylene) (FEP); poly(ethylene-*alt*-chlorotrifluoroethylene) (ECTFE); poly(ethylene-*co*-tetrafluoroethylene) (ETFE); poly(vinylidene fluoride) (PDVF); tetrafluoroethylene-*co*-hexafluoropropylene-*co*-vinylidene fluoride terpolymer (THV); ultra-high molecular weight polyethylene

(UHMW PE); (poly(bisphenol A-*co*-4-nitrophthalic anhydride-*co*-1,3-phenylenediamine) (PEI); poly(4-methyl-1-pentene) (PMP); and suitable mixtures thereof;

a second film comprised of a polymer selected from the group of poly(oxy-1,4-phenylene-oxy-1,4-phenylene-carbonyl-1,4-phenylene) (PEEK); polytetrafluoroethylene (PTFE); a perfluoroalkoxy (PFA) polymer; poly(tetrafluoroethylene-*co*- perfluoromethyl vinyl ether) (MFA); polyperfluoro(ethylene-*co*-propylene) (FEP); poly(ethylene-*alt*-chlorotrifluoroethylene) (ECTFE); poly(ethylene-*co*-tetrafluoroethylene) (ETFE); poly(vinylidene fluoride) (PDVF); tetrafluoroethylene-*co*-hexafluoropropylene-*co*-vinylidene fluoride terpolymer (THV); ultra-high molecular weight polyethylene (UHMW PE); (poly(bisphenol A-*co*-4-nitrophthalic anhydride-*co*-1,3-phenylenediamine) (PEI); poly(4-methyl-1-pentene) (PMP); and suitable mixtures thereof; that is welded to the first film; and

a connector comprised of a polymer and positioned approximately perpendicular to one of the edges of the first film.

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21. The apparatus of claim 20, wherein a thickness of the first film is in at least approximately 15 microns.

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22. The apparatus of claim 20, wherein a thickness of the second film is in at least approximately 15 microns.

23. A kit comprising:

a bag for the storage of fluids, the bag comprised of a polymeric film comprising a polymer selected from the group of poly(oxy-1,4-phenylene-oxy-1,4-phenylene-carbonyl-1,4-phenylene) (PEEK); polytetrafluoroethylene (PTFE); a perfluoroalkoxy (PFA) polymer; poly(tetrafluoroethylene-*co*- perfluoromethyl vinyl ether) (MFA); polyperfluoro(ethylene-*co*-propylene) (FEP); poly(ethylene-*alt*-chlorotrifluoroethylene) (ECTFE); poly(ethylene-*co*-tetrafluoroethylene) (ETFE); poly(vinylidene fluoride) (PDVF); tetrafluoroethylene-*co*-hexafluoropropylene-*co*-vinylidene fluoride terpolymer (THV); ultra-high molecular weight polyethylene (UHMW PE); (poly(bisphenol A-*co*-4-

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nitrophthalic anhydride-co-1,3-phenylenediamine) (PEI); poly(4-methyl-1-pentene) (PMP); and suitable mixtures thereof, the bag suitable for heating to at least approximately 253° Celsius;

packaging material; and

5 instructions or indicia located on the packaging material or inside the packaging material.

24. The kit of claim 23, further comprising fluids stored in the bag.

10 25. The kit of claim 24, wherein the bag is not heated to at least approximately 253° Celsius after the fluids are stored in the bag.

26. The kit of claim 23, wherein a thickness of the polymeric film is in a range of approximately 15 to 50 microns.

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27. The kit of claim 23, wherein the bag is suitable for heating to at least 253° Celsius for at least approximately 30 minutes.

28. The kit of claim 23, wherein the bag is suitable for heating to at least 253° Celsius
20 for at least approximately 60 minutes.